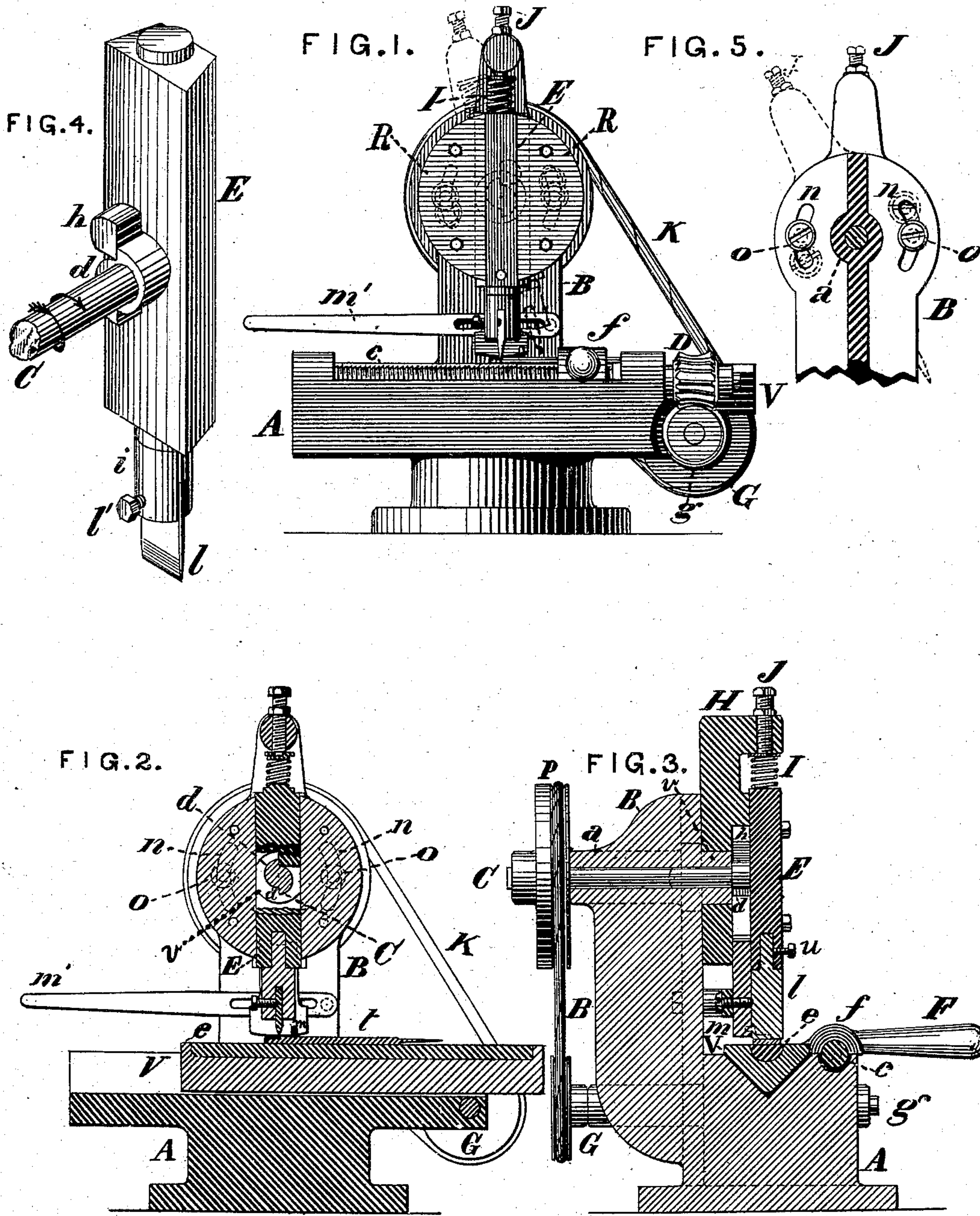


A. WEED.
File Cutting Machine.

No. 239,412.

Patented March 29, 1881.



WITNESSES.

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ALFRED WEED, OF PHILADELPHIA, PENNSYLVANIA.

FILE-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 239,412, dated March 29, 1881.

Application filed September 19, 1879.

To all whom it may concern:

Be it known that I, ALFRED WEED, of Philadelphia, Pennsylvania, have invented certain new and useful Improvements in File-Cutting Machines, of which the following is a specification, reference being had to the accompanying drawings, wherein—

Figure 1 is a front elevation of the machine; Fig. 2, a vertical longitudinal section through its center; Fig. 3, a vertical cross-section through its center; Fig. 4, an enlarged perspective view of the chisel-carrier and its actuating device, and Fig. 5 a rear elevation of the top portion of the supporting frame-work.

Certain of my improvements relate to a file-cutting machine in which the bed-piece is maintained permanently in a horizontal position and the chisel and its carrier are swung in order to deliver a blow of the requisite obliquity. Heretofore when this construction has been adopted, the swinging chisel-carrier has been actuated by a long lever the line of whose fulcrum was parallel to the trunnions of the carrier. Thus the lever lay in the plane of oscillation of the chisel and the swinging necessarily varied its relation to the lever-arm. To compensate for this irregularity a combination of links was used, and the mechanism was not only complicated, but weakened by the number of pivot-joints required.

In my improved machine the chisel is actuated by a cam whose axis coincides with the axis of oscillation of the carrier. Thus, whatever be the angle at which the carrier is placed, its relative position to its actuating device remains unchanged. This mechanism is simple, compact, and strong.

My improvements further consist in so constructing the sliding bed-piece as to afford the greatest firmness under the blow of the chisel.

The base-plate A is, by preference, cast in one piece with the standard B, the former provided with bearings for the shaft of pulley G, the latter similarly provided for the shaft C of pulley P. The shaft C, after passing through a sleeve, v, terminates in an eccentric double cam, d. Suspended upon and revolving around the end of the sleeve v is the swinging frame H, slotted vertically to receive the lug h of the chisel-carrier E. The guide-pieces R R, screwed

onto the face of H and overlapping the inclined sides of the chisel-carrier, form ways in which the latter slides. A spring, I, whose tension is regulated by the set-screw J fitting in the overhanging arm of the frame H, presses against the top of the chisel-carrier E. In the rear of the swinging frame H are two screws, o o, projecting through slots n n in the standard B, by means of which the swinging frame can be set and clamped at any desirable inclination. The lower end of the chisel-carrier E receives the head i, which can be revolved laterally therein and set in any position by means of a screw, u. The head is slotted to receive the chisel l, adjusted by the screw v.

The blank t to be cut rests upon the V-shaped sliding bed-piece V, which is preferably provided with a semi-cylindrical leveler, e, fitting in a corresponding groove of the bed-piece, to enable the file to adjust itself to the blow. A presser-foot, m, swinging with the frame H and provided with a slotted arm, m', retains the file-blank in position by means of a lug or pin which presses on the latter. The V-shaped bed-piece V travels in a correspondingly-shaped way formed in the base-plate A, and is propelled by means of the half-nut f with a weighted arm, F, which rests upon the screw c, worked by the pinion D and screw g of the pulley G. A band, K, connects the latter with the main pulley P.

The operation is as follows: The swinging frame H being inclined at the desired angle and clamped in position by the screws o o, the file-blank t is placed in position upon the leveler e. The presser-foot is then adjusted with its pin or lug upon the blank, and the arm m' is properly weighted. The main pulley P is then revolved, and the eccentric-cam d raises the pin h and chisel-carrier E, compressing the spring I. When the pin h is released by the cam the spring I drives the chisel-carrier downward and delivers the blow upon the blank t, forming a tooth. As the revolution of the pulleys P and G continues, the bed-piece V is moved forward by means of the screw c and half-nut f, and the blank t is carried forward to receive another blow from the chisel.

I am aware that it is not new to swing the chisel-carrier over a horizontally-fixed bed-piece; and I am also aware that a double bed-

piece is old. I therefore do not claim, broadly, either of these features; but

I desire to secure by Letters Patent the following improvements:

5 1. The combination, with the swinging chisel-carrier, of an actuating-cam whose axis coincides with the axis of oscillation of the carrier, substantially as set forth.

10 2. The combination of a swinging chisel-carrier, a sleeve upon which said carrier oscil-

lates, and an actuating-cam whose shaft passes through said sleeve, substantially as set forth.

3. The combination of the V-shaped sliding bed-piece with the correspondingly-formed ways of the bed-plate, substantially as set forth. 15

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Witnesses:

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